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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: Eric Hengstenberg

Examiner: Michelle Thomson

SERIAL NO.: 10/648,996

Group Art Unit: 3641

FILED: August 27, 2003

TITLE: IMPROVED FIRING SYSTEM FOR A FIREARM

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

DECLARATION UNDER 37 CFR §1.8(b)

Brett J. Trout does declare as follows:

1. That on November 10, 2006, he personally deposited with the United States Postal Service mailbox located at 400 Locust St., #130 Capitol Square Center, Des Moines, Iowa 50309, a Response Under 37 CFR §1.111 in Application Serial No. 10/648,996;

2. That a true copy of such response under 35 CFR §1.111 is attached hereto, along with a copy of a return postcard for acknowledging receipt by the Patent and Trademark Office, which was returned on February 7, 2006;

3. Upon receipt of the late dated postcard and a telephone call from the United States Patent and Trademark Office on February 8, 2006, the undersigned prepared the instant declaration;

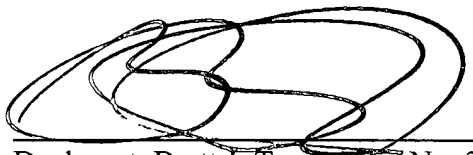
CERTIFICATE OF MAILING

I hereby certify that this document is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 8 day of February, 2006, with adequate postage affixed thereto.

4. That in order for the Response Under 37 CFR §1.111 to be accepted as timely, it is necessary that this showing be made conforming to 37 CFR §1.8(b), the acceptance of which is respectfully requested herein; and

5. That all statements made herein are of his own knowledge and are true; and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by a fine or imprisonment, or both, under §1001 of Title 18 of the United States Code, and may jeopardize the validity of this application or registration issuing thereon.

Signed this 8th day of February, 2006.



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November 10, 2005

Applicant: Eric Hengstenberg
Serial No. 10/648,996
Filed August 27, 2003
Title: IMPROVED FIRING SYSTEM FOR A FIREARM

Please acknowledge receipt of the following:

Response to Office Action

sj

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FAX COVER SHEET

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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RESPONSE UNDER 37 CFR §1.111

Dear Sir:

In the above-identified application for United States Letters Patent and in response to the Office Action mailed on August 10, 2005, kindly consider the following amendments and remarks toward reconsideration of the present application.

IN THE CLAIMS

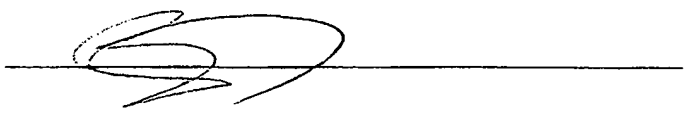
Please amend Claims 3 and 4 as set out below.

IN THE SPECIFICATION

Please amend the specification as set out below.

CERTIFICATE OF MAILING

I hereby certify that this document is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 10 day of December, 2005, with adequate postage affixed thereto.



1. (Original) An improved action in a firearm having a grip, a receiver, a forwardly extending barrel and a trigger assembly, the improvement comprising:

(a) a frame;

(b) a hammer pivotably coupled to said frame;

(c) a carriage;

(d) means provided on said carriage for releasably engaging said hammer when said carriage is pivoted in a first direction and for releasing said hammer when said carriage is pivoted in a second direction, wherein said first direction is substantially opposite said second direction; and

(e) means for pivotably coupling said carriage to said frame in a manner which allows said carriage to disengage from said frame upon pivoting the carriage a predetermined angle in relation to said frame.

2. (Original) The improved action in a firearm of Claim 1, further comprising a firing pin coupled to said carriage.

3. (Currently Amended) The improved action in a firearm of Claim 1, further comprising means for preventing said carriage from pivoting said predetermined angle relative to said ~~receiver~~frame.

4. (Currently Amended) The improved action in a firearm of Claim 1, further comprising means for engaging said hammer against pivoting relative to said ~~receiver~~ frame when said carriage is pivoted in said second direction.

5. (Original) The improved action in a firearm of Claim 1, wherein said carriage is provided with an ignition system holder

6. (Original) The improved action in a firearm of Claim 5, further comprising a shield rigidly coupled to said frame over said ignition system when said ignition system is in battery.

7. (Original) The improved action in a firearm of Claim 6, wherein said frame is provided with an opening greater than one square centimeter in size.

8. (Original) The improved action in a firearm of Claim 3, further comprising a catch coupled to said carriage, wherein said preventing means comprises:

(a) a keeper;

(b) a tab coupled to said keeper; and

(c) wherein said preventing means is pivotable between a first position in which said keeper contains said catch in a manner which prevents said carriage from pivoting through said predetermined angle relative to said frame, and a second position in which said keeper allows said carriage to pivot through said predetermined angle relative to said frame.

9. (Original) The improved action in a firearm of Claim 1, further comprising a sear pivotably engagable with said hammer.

10. (Original) The improved action in a firearm of Claim 9, wherein said sear is positioned substantially within said carriage.

11. (Original) The improved action in a firearm of Claim 9, wherein said sear is pivotably coupled to said frame at a position which is over one centimeter relative to a point at which said sear engages said hammer.

12. (Original) The improved action in a firearm of Claim 9, wherein said hammer pivots about an axis and wherein said sear is pivotably coupled to said frame at a first point which is further from said axis than a second point at which said sear engages said hammer.

13. (Original) The improved action in a firearm of Claim 12, wherein said hammer comprises a shaft and a striker and wherein said striker has a head having a top, wherein said first point and said second point are located closer to said axis than said top of said head of said striker.

14. (Original) The improved action in a firearm of Claim 1, wherein said carriage pivots on a first axis, and wherein said hammer pivots on a second axis, wherein said first axis is different than said second axis.

15. (Original) An improved action in a firearm having a grip, a receiver, a forwardly extending barrel and a trigger assembly, the improvement comprising:

(a) a receiver;

(b) a carriage coupled for pivotable movement within said receiver;

(c) a hammer coupled for pivotable movement within said carriage;

(d) a handle coupled to said carriage;

(e) means for allowing said carriage to be removed from said receiver upon pivoting said carriage a predetermined angle relative to said receiver; and

(f) means provided on said carriage for engaging and pivoting said hammer in a first direction upon pivoting said carriage in said first direction.

16. (Original) The improved action in a firearm of Claim 15, further comprising a firing pin coupled to said carriage.

17. (Original) The improved action in a firearm of Claim 16, wherein said firing pin is secured to said hammer.

18. (Original) A firearm comprising:

(a) a grip,

(b) a receiver,

(c) a forwardly extending barrel,

(d) and an action comprising:

(i) a receiver;

(ii) a carriage pivotable within said receiver about a first axis;

(iii) a hammer pivotable about a second axis;

(iv) a catch pivotably moveable between a first position and a second position; and

(v) means coupled to said carriage for allowing said carriage to be removed from said receiver when said catch is in said first position and for preventing said carriage from being removed from said receiver when said catch is in said second position.

19. (Original) The improved action in a firearm of Claim 18, wherein said carriage pivots on a first axis, and wherein said hammer pivots on a second axis, wherein said first axis is different than said second axis.

20. (Original) The improved action in a firearm of Claim 18 further comprising means provided on said carriage for releasably engaging said hammer when said carriage is pivoted in a first direction and for releasing said hammer when said carriage is pivoted in a second direction, wherein said first direction is substantially opposite said second direction.

On page 6, paragraph 2, please make the following changes:

As shown in Figs. 2-3, the carriage assembly (18) contains the entire firing assembly, including a carriage (42), preferably constructed of 10/20 steel hardened to Rockwell 55. The carriage (42), of course, may be constructed of any suitable material known in the art. As shown in Fig. 3, the carriage (42) includes a front plate (44), a bottom plate pair (46) and a back strap (48). Provided on the bottom plate pair (46) are a plurality of holes and a slot (50). The slot (50) is preferably cut at a forty-five degree angle, with parallel walls (52) opening to a circular recess (54), having a diameter greater than the distance between the walls (52). Means are provided for pivotably coupling the carriage assembly (18) to the frame (12) in a manner which allows the carriage assembly (18) to disengage from the frame (12) upon pivoting the carriage assembly (18) a predetermined angle in relation to the frame (12). As shown in Fig. 2, this pivotable coupling means is a flat-sided pin (56), provided through the circular recess (54). The ~~is a~~ flat-sided pin (56) which has a diameter across a first dimension only slightly smaller than the diameter of the circular recess (54), and a distance across a transverse direction only slightly smaller than the distance between the walls (52) of the slot (50). Preferably, this narrower distance is maintained across the entire dimension of the flat-sided pin (56), allowing the carriage assembly (48) to be removed from the frame (12) when the carriage assembly (18) is rotated a predetermined angle relative to the frame (12). The flat-sided pin (56) is secured to the frame (12) in such a manner that the carriage assembly (18) must be rotated in excess of forty-five degrees before the flat-sided pin (56) is in proper alignment with the walls (52) of the slot (50) to allow the carriage assembly (18) to be removed from the frame. The flat-sided pin (56) is frictionally engaged with the frame (12) to prevent rotation of the flat-sided pin (56) relative to

the frame (12). Rotation of the flat sided pin (56) would prevent the desired removal of the carriage assembly (18) from the frame (12) upon rotation to the predetermined angle.

On page 12, paragraph 3, through page 13, paragraph 2, please make the following changes:

When it is desired to utilize the firearm (10) of the present invention, the tab (176) of the rear carriage catch (174) is moved rearward sufficiently to allow the keeper (180) to clear the lip (286) of the trigger guard assembly (96). (Fig. 2). The trigger guard (20) is then utilized to rotate the carriage assembly (18) in a counter-clockwise rotation around the flat sided pin (56). Means are provided for releasably engaging the hammer (66) when the carriage assembly (18) is pivoted in a first direction and for releasing the hammer (66) when the carriage assembly (18) is pivoted in a second direction. In the preferred embodiment, the engaging and releasing means is the primer pocket (224). As the carriage assembly (18) rotates, the primer pocket (224) motivates the hammer (66) in a counter-clockwise rotation. As the carriage assembly (18) rotates, the outward catch (80) of the hammer (66) contacts the sloped nose (206) of the hammer catch (194). The sloped nose (206) biases the hammer catch (194) rearward against the tension of the spring (208) until the outward catch (80) passes the nose (206), and allows the spring (208) to again motivate the hammer catch (194) forward. As shown in Fig. 12, the nose (206) of the hammer catch (194) is shaped with a flat bottom to prevent the outward catch (80) from passing by the hammer catch (194) in a clockwise motion until the hammer catch (194) is motivated rearward.

Means are provided for preventing the carriage assembly (18) from pivoting to a sufficient predetermined angle to allow the carriage assembly (18) to disengage from the frame (12). In the preferred embodiment, this means is the forward carriage release (268). If it is desired to remove the entire carriage assembly (18) for cleaning, inspection or repair, a finger of

a user (not shown) may be placed into the recess (282) to engage the finger recess (274) of the forward carriage release (268). Using the trigger guard (20) as a handle, the forward carriage release (268) is rotated clock-wise against the compression spring (280) until the catch plate (278) is retracted sufficiently so as to allow the stop (132) of the trigger guard assembly (96) to pass. To release the carriage assembly (18) the carriage assembly (18) must be rotated enough to align the flat sided pin (56) with the walls (52), to allow the flat sided pin (56) to move through the slot (50) and allow the carriage assembly (18) to disengage from the rest of the firearm (10). (Fig. 13). Although the flat sided pin (56) and slot (50) may be constructed of any suitable design or orientation, in the preferred embodiment, the flat sided pin (56) and slot (50) are oriented so that the flat sided pin (56) can slide through the slot (50) when the carriage assembly is oriented at an angle greater than thirty degrees, more preferably greater than forty degrees, and most preferably, forty-five degrees. Whatever angle for release is selected, it is important that the forward carriage release (268) and stop (132) be constructed in a manner such that the carriage assembly (18) cannot be released from the remainder of the firearm (10) unless the forward carriage release (268) has been manually rotated in a clockwise manner.

On page 14, paragraph 2, please make the following changes:

If it is desired to fire the firearm (10) the carriage assembly (18) is rotated as described above sufficiently to allow the carriage assembly (18) to clear the upper aperture (14) in the frame (12). The ignition system (250) is then inserted into the primer pocket (224) until it rests in an orientation such as that shown in Figs. 8, 14 and 15. Once the ignition system (250) has been so positioned, the carriage assembly (18) is rotated clockwise until the trigger guard assembly (96) contacts the rear carriage catch (174). (Fig. 16). The angle of both the trigger guard assembly (96) and the rear carriage catch (174) allow the rotation of the trigger guard assembly (96) to push the rear carriage catch (174) against the torsion of the torsion spring (192). Contact of the beak (184) with the hammer catch (194) prevents the rear carriage catch (174) from over rotating through either manual motivation or motivation by the trigger guard assembly (96). As the carriage assembly (18) rotates, the nose (206) of the hammer catch (194) engages the outward catch (80) of the hammer (66)~~.~~. To cock the hammer (66), means are provided for engaging the hammer (66) against pivoting relative to the frame (12) when the carriage assembly (18) is rotated in a clockwise rotation. In the preferred embodiment, the engaging means is ~~while~~ the sear (222), which engages the inward catch (82), thereby preventing the hammer (66) from rotating with the carriage assembly (18).

REMARKS

The application has been amended to correct minor informalities so as to place the application, as a whole, into a prima facie condition for allowance. Great care has been taken to avoid the introduction of new subject matter into the application as the result of the foregoing modifications.

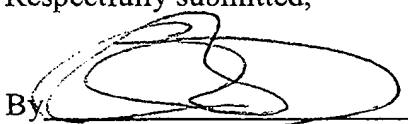
In the Office Action dated August 10, 2005, the Examiner objected to the specification as failing to provide proper antecedent basis for the claimed subject matter. The Examiner stated Applicant must clarify the disclosure to expressly state, with reference to terms and phrases of the claim element, which structure, materials or acts perform means for actions detailed in the claim element. Although Applicant respectfully asserts that the specification fully supports the claims as submitted, Applicant has further clarified the specification to highlight the portions of the specification and drawings which support the "means for" language identified by the Examiner. Accordingly, it is respectfully requested that the Examiner withdraw the objection and grand reconsideration to the application toward passage to allowance.

The Examiner has also objected to Claims 7 and 11-13 under 35 U.S.C. §103(a) as being unpatentable over Lizarralde, et al. Applicant reserves the right to object to this reference as "prior art," given the date of the publication, but presents the following arguments which Applicant believes obviate the necessity of any additional argument. In the Office Action, the Examiner states that Lizarralde discloses means for pivotally coupling the carriage to the frame in a manner which allows the carriage to disengage from the frame upon pivoting the carriage a predetermined angle in relation to the frame. The Examiner cites as support for this contention Figures 1-5 of Lizarralde. Applicant respectfully traverses the Examiner's rejection. Not only

do Figures 1-5 of Lizarralde not disclose any such disengagement of the carriage from the frame, but nothing in the drawings, specification or claims of Lizarralde teaches or suggests such a disengagement from the frame. Indeed, as noted in paragraph 0046 of the Lizarralde publication, if it is desired even to clean the firing mechanism of Lizarralde, the stock must be taken off the barrel by unscrewing bolts to allow access to the firing mechanism which is securely joined to the barrel by the pivoting axle and blocking axle. This "secure joining" teaches directly against Applicant's claimed pivoting carriage for disengagement from the frame. Accordingly, as Lizarralde does not teach nor suggest any of Claims 1-20, and as Claim 1 is generic and allowable over the art and arguments cited by the Examiner, Applicant respectfully requests the Examiner grant reconsideration to the application and grant allowance of all claims 1-20.

The Examiner is respectfully urged to call the undersigned at 515-288-9263 to discuss the claims in an effort to reach a mutual agreement with respect to claim limitations in the present application which will be effective to define the patentable subject matter of the present invention if the present claims are not deemed to be adequate for this purpose.

Respectfully submitted,



By_____
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